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10/534,658	10/14/2005	Bernd Schonebeck	7103.00US	7100

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EXAMINER
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GADDY, BENJAMIN E

ART UNIT	PAPER NUMBER
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4181

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10/29/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/534,658

**Applicant(s)**

SCHONEBECK, BERND

**Examiner**

Benjamin E. Gaddy

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☒ Claim(s) 18-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 October 2005 is/are: a) ☒ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. The abstract of the disclosure is objected to because it does not fit the proper format for an abstract. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Extracting contextual meaning in speech recognition via assigning a concept to recognized words."

### ***Claim Objections***

1. Claims 18 - 22 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 18 depends on multiple dependent claim 17; multiple dependent

claim 19 depends on multiple dependent claims 13, 17 and 18; multiple dependent claim 20 depends on multiple dependent claims 13, 17, 18 and 19. See MPEP § 608.01(n). For the purposes of examination, it will be assumed that claim 18 depends on claim 17 only; that claims 19 and 20 depend on claim 1 only.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 6, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Regarding claim 1, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

4. The term "advantageously" in claim 6 is a relative term which renders the claim indefinite. The term "advantageously" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

5. Claim 16 recites the limitation "specific querying processing module" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

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Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 19-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are all hybrid claims. Each claim attempts to claim a method (process), while depending on a claim to a system (machine). Each claim must fall into one statutory category.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 5, 8, 11, 15, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Chigier (US 5,638,487).

Consider claim 1: Chigier discloses a language-processing system (**see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech**), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (**see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching**) wherein the extractor assigns to the speech being processed concepts (**see Col. 9, lines 15-25, where Chigier discusses assigning a probability vector**).

Consider claim 3: Chigier discloses a language-processing system (**see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech**), including at least one

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extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching), wherein the extractor has access to a separate, global knowledge base (see Col. 5, lines 10-22, where Chigier discusses an Internet-available database).

Consider claim 5: Chigier discloses a language-processing system (see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching), wherein the connector links the concepts that were assigned in accordance with the verbal input, forming a statement (see Col. 9, lines 25-33, where Chigier discusses determining the word sequence).

Consider claim 8: Chigier discloses a language-processing system (see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching), wherein the connector conveys the unlinkable parts of the speech being linked, especially the unlinkable concepts, and/or added words or concepts to a feedback module for checking by the user or by another external agent (see Col. 3, lines 22-30, where Chigier discusses allowing adjustments to be made).

Consider claim 11: Chigier discloses a language-processing system (see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching), characterized by a situation model, which is linked to the extractor, the connector, and/or at least one other processing module of the language-processing system, such that concepts or statements that are located in the extractor, the connector, and/or the other processing module are evaluated in accordance with the condition of the situation model (see Figure 1 and Col. 4, lines 26-38, where Chigier discusses a spectral analyzer including a language model).

Consider claim 15: Chigier discloses a language-processing system (see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching), characterized by an ALI module, which contains a quantity of cognitive routines of various categories, and especially makes available routines for the extraction of meaning, context-bound modification, context-bound association, and logical processes (inferences), and makes them available to the extractor, the connector, and/or another module of this language-processing system (see Col. 7, lines 47-54, where Chigier discusses an artificial neural network (ANN)).

Consider claim 19: Chigier discloses a method for assigning acoustical strings to words or lexical entries (see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech), wherein in response to the presence of multiple possible alternatives, recourse is had to a system (see Col. 9, lines 15-25, where Chigier discusses assigning a probability vector).

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chigier (US 5,638,487) in view of Grant (US 6,208,972).

Consider claim 2: Chigier discloses a language-processing system (see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching), wherein the extractor reduces the speech being processed to simple forms (see Col. 9, lines 20-30, where Chigier discusses grammar rules).



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Chigier does not specifically disclose processed to basic forms, however Grant discloses processed to basic forms (**see Col. 10, lines 1-10, where Grant discusses the linguistic model**). It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chigier, and use processed to basic forms as taught by Grant, thus enabling the determination of context and determining whether the data should be passed through, as discussed by Grant (**see Col. 10, lines 5-10**).

5. Claims 4, 6, 16, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chigier (US 5,638,487) in view of Chao Chang (US 6,567,778).

Consider claim 4: Chigier discloses a language-processing system (**see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech**), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (**see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching**), wherein the connector links the lexically assigned speech, especially concepts, to form a statement (**see Col. 9, lines 25-33, where Chigier discusses determining the word sequence**).

Chigier does not specifically disclose an iterative manner, however Chao discloses an iterative manner (**see Figure 1 and Col. 7, lines 23-35, where the process is repeated**). It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chigier, and use an iterative manner as taught by Chao, thus enabling the system to account for low confidence levels, as discussed by Chao (**see Col. 7, lines 25-30**).

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Consider claim 6: Chigier discloses unlinked concepts are marked and, advantageously, an error condition is assumed if the number of unlinked concepts exceeds a predefined number **(see Col. 8, lines 12-20, where Chigier discusses changing weights in response to errors)**. Chigier does not specifically disclose exceeding a predefined number, however Chao Chang discloses exceeding a predefined number **(see Col. 5, lines 23-30, where Chao Chang discusses a predetermined confidence threshold)**. It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chigier, and use exceeding a predefined number as taught by Chao Chang, thus providing a measure of the confidence associated with the accuracy of recognition, as discussed by Chao Chang **(see Col. 3, lines 29-46)**.

Consider claim 16: Chigier discloses the ALI module, which makes available the cognitive routines to the processing module as a function of the categories being processed **(see Col. 7, lines 55-65)**.

Chigier does not specifically disclose a query, however Chao Chang discloses a query **(see Col. 7, lines 30-40, where Chao Chang discusses software to generate the query)**. It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chigier, and use a query as taught by Chao Chang, thus re-acquiring a failed message, as discussed by Chao Chang **(see Col. 7, lines 30-35)**.

Consider claim 17: Chigier discloses the ALI module makes available routines for the extraction of meaning, which have recourse to a situation model, a memory for a global knowledge base, and/or a memory for expert knowledge **(see Col. 8, lines 33-57, where**

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**Chigier discusses the ANN routines and a computer database, therefore a memory for expert knowledge).**

Consider claim 18: Chigier discloses the ALI module or its cognitive routines have recourse to the world knowledge, situation model, and/or expert knowledge modules (see Col. 8, lines 33-57, where **Chigier discusses a computer database, therefore a memory for expert knowledge).**

6. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chigier (US 5,638,487) in view of Silverman (US 2002/0077825).

Consider claim 7: Chigier discloses a language-processing system (see Col. 2, lines 18-25, where **Chigier discusses a scheme for recognizing speech**), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (see Col. 4, lines 25-35, where **Chigier discusses word-level and sentence-level matching**), characterized by a conflict module (see Col. 8, lines 20-30, where **Chigier discusses determining errors**), a feedback module (see Col. 3, lines 22-30, where **Chigier discusses allowing adjustments to be made**), an expert device for risk analysis, a virtual realizer for realizing the reconstructed meaning (see Col. 9, lines 28-33, where **Chigier discusses outputting recognized speech**), a modifier, that is attached downstream of the connector, for any necessary change of the concepts contained in the statement arrived at in the connector, and/or an anticipator for calling up any subsequent events--as processing modules (see Col. 9, lines 25-30, where **Chigier discusses an algorithm**).

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Chigier does not specifically disclose an expert device for risk management, however Silverman discloses an expert device for risk management (**see Para 0036, lines 1-10, where Silverman discusses methods for evaluating risk**). It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chigier, and use an expert device for risk management as taught by Silverman, thus allowing the use of different speech criteria to assess risk, as discussed by Silverman (**see Para 0036, lines 1-10**).

7. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chigier (US 5,638,487) in view of Jenkins (US 4,725,956).

Consider claim 9: Chigier discloses a language-processing system (**see Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech**), including at least one extractor as a device for the lexical assignment of the speech being processed and at least one connector as a device for linking the lexically assigned speech to form a statement (**see Col. 4, lines 25-35, where Chigier discusses word-level and sentence-level matching**), characterized by a command generator, which assigns commands to concepts.

Chigier does not specifically disclose commands, however Jenkins discloses commands (**see Col. 3, line 64 - Col. 4, line 13, where Jenkins discusses a voice command input system**). It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chigier, and use commands as taught by Jenkins, thus enabling the recognizing of voice commands and generating machine compatible control signals in accordance with the commands, as discussed by Jenkins (**see Col. 2, lines 10-15**).

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Consider claim 10: Chigier and Jenkins discloses the assigned commands of the command generator in their conceptual structures correspond to the conceptual structure of the concepts used by the connector.

8. Claims 12, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chigier (US 5,638,487) in view of Dautrich (US 4,972,485).

Consider claim 12: Chigier discloses the situation model is linked to the extractor, the connector, and/or at least one other processing module, such that concepts or statements located in the extractor, the connector, and/or the other processing module alter the condition of the situation model.

Chigier does not specifically disclose altering the condition of the model, however Dautrich discloses altering the condition of the model (see Col. 4, lines 45-50, where Chigier **discusses updating the model**). It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chigier, and use altering the condition of the model as taught by Dautrich, thus generating a more accurate model, as discussed by Dautrich (see Col. 4, lines 45-50).

Consider claim 13: Chigier discloses the situation model has an interface to a measuring device (see Col. 4, lines 30-37, where Chigier **discusses sampling, therefore a measurement**).

Consider claim 14: Chigier discloses the interface assigns concepts to the measuring values, and these measuring values and/or system conditions of downstream technical installations are represented by concepts in the situation model (see Col. 4, lines 46-55, where Chigier **discusses spectral analysis and assigning feature vectors**).

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9. Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chigier (US 5,638,487) in view of Lerg (US 2002/0107694).

Consider claim 20: Chigier discloses a method, wherein speech instructions, are grasped in their meaning and anticipated in their consequences (see **Col. 2, lines 18-25, where Chigier discusses a scheme for recognizing speech**).

Chigier does not specifically disclose flight safety, however Lerg discloses flight safety (see **Paragraph 0074, lines 1-10, where Lerg discusses using the safety system with an aircraft**). It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Chigier, and use flight safety as taught by Lerg, thus detecting an emergency situation in an aircraft, as discussed by Lerg (see **para 0008, lines 1-10**).

Consider claim 21: Chigier and Lerg disclose a machine-type understanding of the flight situation.

Consider claim 22: Chigier and Lerg disclose the comprehended flight situation is taken into account or also processed in an anticipatory manner, in foreseeing the consequences.

### ***Conclusion***

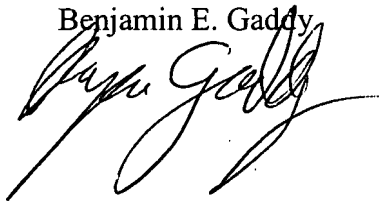
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin E. Gaddy whose telephone number is (571) 270-5134. The examiner can normally be reached on M-TH 9am - 4pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on (571) 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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